FIG. 1 (PG 1 OF 2)

BOVINE RAG2 SEQUENCE

>

>

> 773 ATGTCACT ACAGATGGTA ACAGTCGGAA

>

> 801 ATAGCATAGC CTTAATTCAA CCAGGCTTCT CGTTAATGAA
TTTTGATGGG

>

> 851 CAAGTTTTCT TCTTTGGCCA AAAAGGCTGG CCCAAGAGGT
CTTGCCCCAC

>

> 901 TGGAGTTTTC CATTTTGAGG TAAAGCATAA TCATCTTAAA
CTGAAGCCTG

>

> 951 CAGTTTTCTC TAAGGATTCC TGCTACCTTC CTCCTCTTCG ATACCGGGC

>

> 1001 CACTTGCACA TTCAGCGGCC AACTTGGAGT CTGAAAAGCA
TCAGTACATC

>

> 1051 ATCCATGGAG GAAAAACACC AAACAATGAG CTTTCAGATA
AGATTTATGT

>

> 1101 GATGTCTGTT GTTTCCAAGA ACAACAAAAA AGTTACCTTT
CGCTGCACAG

>

> 1151 AGAAGGACTT GGTAGGAGAC ATTCCTGAAG GCAGATATGG
TCATTCCATT

>

> 1201 GATGTGGTGT ATAGTCGGGG GAAAAGTATG GGTGTTCTCT
TTGGAGGACG

>

> 1251 GTCATACATA CCTTCTGCCC AAAGAACCAC AGAGAAATGG
AACAGTGTAG

>

> 1301 CTGACTGCCT GCCCCATGTC TTCTTGGTGG ATTTTGAATT
TGGGTGCTCT

>

> 1351 ACGTCATACA TTCTTCCAGA ACTTCAAGAT GGACTATCTT
TTCATGTCTC

>

> 1401 CATTGCCAGA AATGATACCG TTTATATTTT AGGAGGCCAT
TCACTTGCCA

>

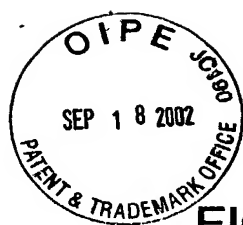> 1451 ATAACATCCG CCCTGCCAAT CTGTACAGAA TAAGGGTTGA
TCTCCCCCTG

>

FIG. 1 (PG 2 OF 2)

BOVINE RAG2 SEQUENCE

```
>  1501 GGTAGCCCAG CTGTGGAGTG CACAGTCTTG CCAGGAGGAA
TCTCTGTCTC
>
>  1551 CAGTGCAATC CTGACTCAAA TAAGCAATGA TGAATTTGTT
ATTGTTGGTG
>
>  1601 GCTATCAGCT TGAAAATCAA AAAAGAATGG TCTGTAACAT
CATCTCTTTC
>
>  1651 AAGTATAACA AGATAGACAT TCTTGAGATG GAAACCCCAG
ATTGGACCCC
>
>  1701 AGATATTAAG CACAGCAAGA TATGGTTTGG AAGCAACATG
GGAAATGGAA
>
>  1751 CTGTTTTCCT CGGCATACCA GGAGACAATA AACAGGCTGT
TTCAGAAGCA
>
>  1801 TTTTACTTCT ATACATTGAA ATGTGCTGAA GACGATGTGA
ACGAAGATCA
>
>  1851 GATAACTTTG ACAAGTAGTC AGACATCAAC AGAAGACCCA
GGGGACTCCA
>
>  1901 CTCCCTTTGA AGACTCAGAA GAATTTTGCT TCAGCGCAGA
AGCAAACAGT
>
>  1951 TTCGATGGTG ATGATGAATT TGACACCTAC AATGAAGATG
ATGAGGAAGA
>
>  2001 TGAGTCTGAG ACAGGCTATT GGATTACATG CTGCCCTACT
TGTGATGTGG
>
>  2051 ATATCAATAC GTGGGTACCA TTTTATTCAA CTGAGCTCAA
CAAGCCTGCC
>
>  2101 ATGATCTATT GCTCTCATGG AGATGGACAT TGGGTCCATG
CCCAGTGTAT
>
>  2151 GGATCTGGCA GAACGCACCA CCTCATCCAT CTATCAGAAG
GAAGCAATAA
>
>  2201 ATATTAYTGT AACGAGCATG TGGAGATAG
```

FIG. 2

MAP OF BOVINE RAG-2 KNOCKOUT CONSTRUCT

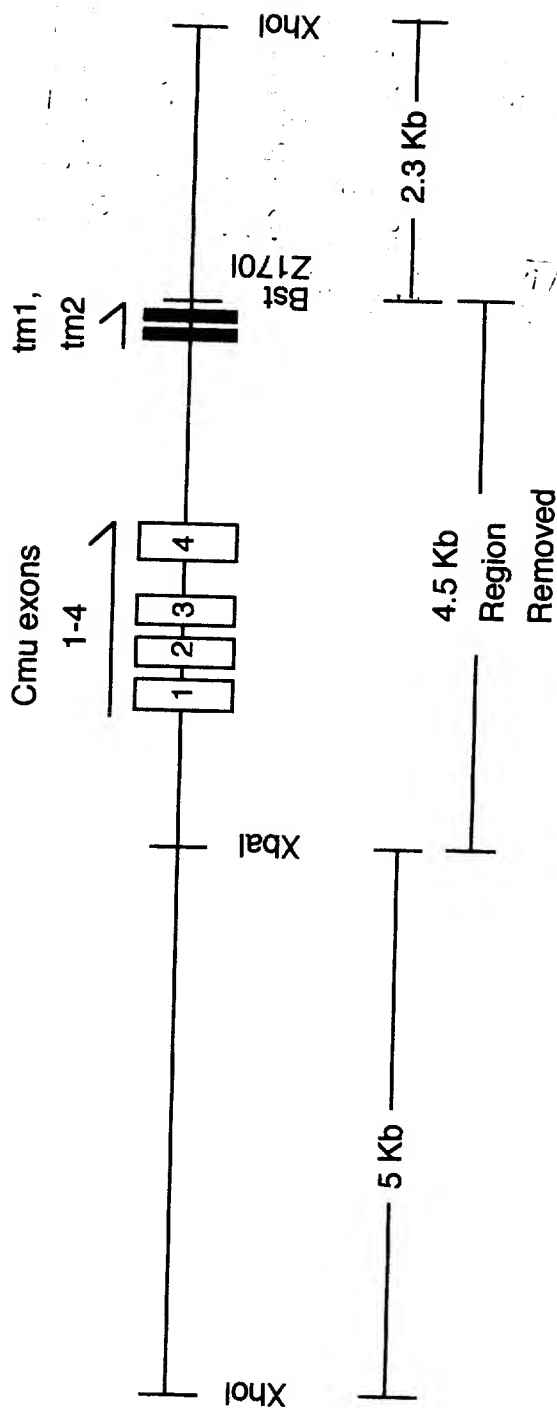0   1.5 1.7   3.6   4.5   4.7
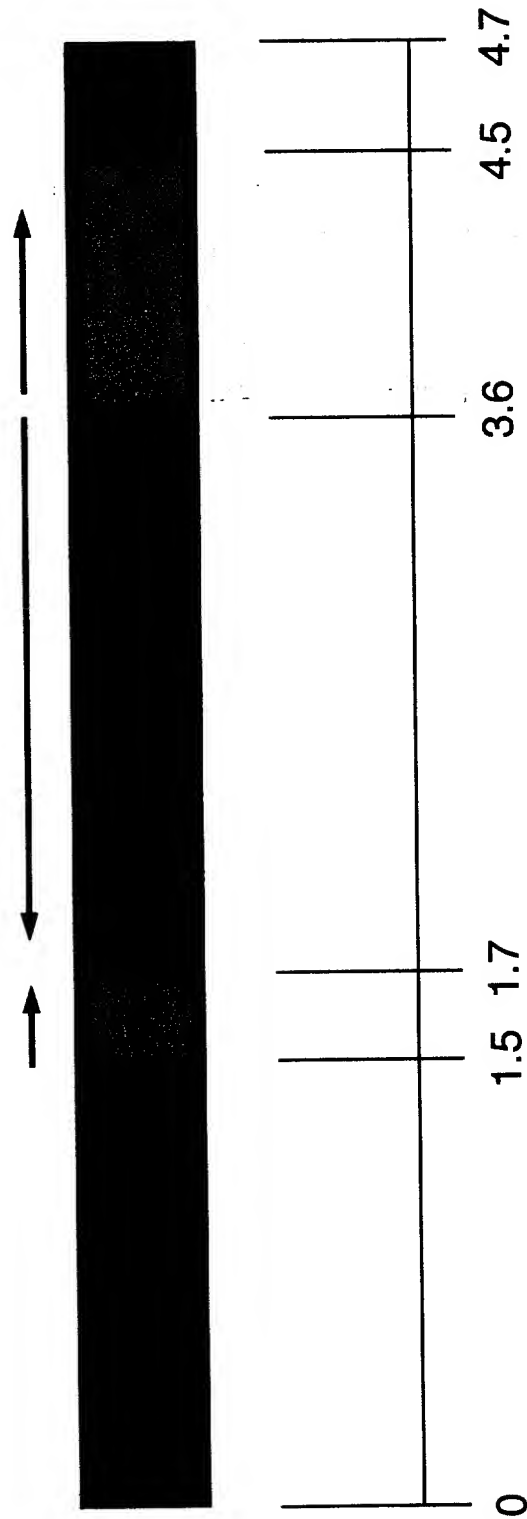
⟷ = TRANSCRIPTIONAL ORIENTATION

Key: Bovine 5' and 3' flanking (FL) sequences are blue; RAG-2 coding region is green
       & the interrupting neomycin gene is red. Note that the transcriptional orientation
       of the NEO gene is opposite to that of the RAG-2 gene.

FIG. 3

The 4.5 Kb region containing the exons encoding the Mu constant region and associated transmembrane domain exons, were deleted and replaced with the loxP-flanked neomycin resistance cassette (Not I fragment)